# Ohio Agricultural Experiment Station.

**Cooperative Wheat Variety Work.**

CIRCULAR NO. 84.

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The **object of this test** is to determine the best variety of wheat for your farm and, as far as possible, for your locality. All farms were not equally fertile before being brought under cultivation, nor have they been treated the same since that time. This and the varying climate of the state may, in a measure, account for the fact that the variety which is best adapted to one locality is not always best for all other sections of the state. The varieties which we will select for you will be from the best that grow in Ohio and we hope that one or more of them will give specially good results with you, yet it may be that you will find still other varieties that will yield better under your conditions. We would urge that you repeat the test for several years both to have a check on your work and to try other good varieties. In these successive tests it would be well to retain several of the varieties yielding best as well as to add several others, the number not being limited. If you will name varieties that you wish to have in any of these tests we will supply them as far as possible. If perchance these tests indicate that you have a variety of your own which is better suited to your locality than any we can send you and you will undertake to improve it still further we will do all we can to prove its superiority and to assist you in introducing it.

The **kind of soil upon which you make this test should be the same as that upon which you expect to grow this crop in the future** if you wish the results to be of any great value to you. Likewise it should be treated just the same as you treat your main field. If you have two distinctly different kinds of soil you wish to study we will supply you with duplicate sets of material in order that you may test them both this year if you advise us at an early date.

Because of the difficulties in connection with seeding, harvesting and threshing the crop in this test there are not many people who make a complete success of it the first time they try it, although there have been exceptions. Experience, however, as in other things, always leads to success.

Very few farmers are so situated that they are willing to delay a drill, a harvester and a thresher long enough to guarantee an accurate test when the plots are of the same size as are used here at the Experiment Station, *i. e.* one-tenth acre. For this reason and because of the difficulty of finding a plot of ground upon which the soil is uniform throughout and which is of sufficient size to lay out the one-tenth acre plots, we have been using **plots but one-eightieth of an acre in size.** With small plots the preparation of the seed bed may all be made with the heavy teams and tools at the same time and in the same manner as the rest of the field, while all other work may be done by hand. The great difficulty with these small plots is in connection with the seeding, it being somewhat hard to get as good results from hand as from machine seeding. The best way that we have found as yet is to run over all the plots with the empty drill, thus marking out the furrows in which to sow the seed by hand. If fertilizer is used on the main field it may be sown on the plots at this time. It is well to make these drill furrows a little deeper than in the regular sowing in order that the grain when sown in them by hand will be below the surface of the ground about the same distance as where sown with the drill. Then after having sown the grain by hand it should be covered with not less than one inch of soil by means of some hand tool that will not destroy the furrowed condition of the plots that is characteristic of newly sown wheat ground. Parties who wish to try using a drill in this seeding instead of sowing by hand would do well to learn the difficulties in connection with the former method before trying same on the plots selected.

If six or more farmers wish to obligate themselves to see that the test is carried out with accuracy on one of their farms we can probably arrange to supply seed for **plots one-tenth acre in size** if request for same is made early. In this case the plots may well be made one or more drill widths wide clear across the field, coming as near to one-tenth acre each as is convenient, but making all plots the same size. This size plot will be used in County Farm tests but when desired sufficient seed will be supplied to duplicate or triplicate the test.

Unless otherwise arranged we will send you seed of **four varieties** and expect you to add an **equal weight of your own wheat** in comparison with them. The test will therefore require

five plots each containing either two square rods or one-tenth acre as the case may be. If the smaller plots are used they may be one by two rods or some other shape that is more convenient.

Great care should be taken in staking out, seeding and all other treatment, that nothing is done that would tend to make any plot produce more grain than would each of the others if all were sown with the same variety. The test should be located not less than one hundred feet from all buildings, trees, etc., and where it will not be subject to disturbance by poultry or other live stock.

If at any time during the growing season any of your crops are seriously **damaged by insect pests or diseases** which you do not know how to combat it might be well for you to send specimens of the same to the Experiment Station for identification and suggestions. Examine the plots at blossoming time for **smut** and if such exists determine the percent on each plot. To do this select a representative area, not smaller than two by three feet, in each plot and by actual count determine the total number of heads and number of smutted heads in it. The latter divided by the former will give the percent of smutted heads.

**Cut each plot** as soon as it is ripe. As soon as it is dry enough to thresh, weigh the unthreshed crop and in the case of the tenth acre test thresh, clean and weigh accurately the grain from each plot. It will be desirable also to flail or shell out, clean and weigh carefully the grain from each plot in the one-eightieth acre test but this is not required.

Make record of the date of seeding and of anything that happens to the plots during the growth of the crop that may in any way affect the yield of any or all of them. Blanks upon which to report this information will be supplied you before harvest after which as prompt a report as possible is requested.

Any further information regarding the test will be given upon request. If you wish to make the test fill out the blank on the reverse side of this page and forward early to

EXPERIMENTALIST, O. A. E. S., WOOSTER, OHIO.

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